

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (Cancelled).

Claim 2 (Currently Amended): The method for manufacturing a camshaft on which the cams (1, 2, 4) are equal distance apart in an axial direction, ~~to be mounted~~ ~~are spaced~~ an axial distance apart, according to Claim ~~+~~ 11,

wherein

~~such~~ axial spacings in the machining module are set by ~~the~~ spacers (3) used there.

Claim 3 (Currently Amended): The method according to claim ~~+~~ 11,

wherein, ~~the~~ spacers (3) as components that are open at the circumference are provided with an opening with a diameter larger than the respective outside diameter of the shaft occupied by the cams, whereby this is true with regard to the outside diameter of the outside shaft (12) in the case of a shaft composed of an inside shaft (11) and an outside shaft (12).

Claim 4 (Currently Amended): The method according to claim

+ 11, in which one of the cams (1, 2, 4), namely a second cam (4) has a radial fitting borehole (7) to receive a fastening element (13) which secures this second cam (4) on the inside shaft (12) (11),

wherein the fitting borehole (7) is created while the respective second cam (4) is within the machining module.

Claim 5 (Currently Amended): The method according claim + 11, wherein screws (5) which pass axially through the cams (1, 2, 4) serve as the means for producing ~~the~~ a detachable joining.

Claim 6 (Currently Amended): The method according claim + 11,

wherein at least two screws (5) are distributed over the circumference of the cams (1, 2, 4).

Claim 7 (Currently Amended): The method according to claim + 11, comprising the features

- a thread (6) of a screw (5) engages in a mating thread which is provided in a spacer (3) situated at a distance from the screw head,
- at least two screws (5) are inserted in opposite directions axially with regard to the position of their

heads and threads.

Claim 8 (Currently Amended): The method according claim ‡
11,

wherein axial dowel pins are used as positioning means
inside the machining module.

Claim 9 (Currently Amended): The method according to claim
‡ 11,

wherein ~~the~~ screws (5) are designed as fitting screws.

Claim 10 (Currently Amended): The method according to claim
‡ 11, for manufacturing a camshaft in which the shaft on which
the cams (1, 2, 4) are mounted is made of two shafts that are
adjustable in relation to one another and are situated
concentrically one inside the other, namely an inside shaft (11)
and an outside shaft (12) and first cams (1, 2) are fixedly
connected to the outside shaft (12) and second ~~cams~~ cam (4) are
fixedly connected to the inside shaft (11) via radial connecting
elements (13) which pass through the outside shaft (12),

wherein

- the machining of the radial inside surfaces for all
cams (1, 2, 4) is performed for all cams to the same
diameter and

- a recess (9) having a reduced diameter is provided on the outside shaft (12) for receiving the second cam (4), whereby the reduction is of such an extent that play-free rotation of the second cam (4) on the outside shaft (12) is ensured.

Claim 11 (New): A method for manufacturing a camshaft having individual cams in predetermined angular positions in relation to one another on a shaft

wherein the following manufacturing steps are performed in chronological order:

- (1) connecting the cams by detachable connecting means to form a detachably assembled machining module wherein the cams are aligned in relation to one another in predetermined fixed angular positions,
- (2) completely machining all cam contours of the module,
- (3) mounting the machined module on the shaft,
- (4) individually connecting each of the cams of the module to the shaft,
- (5) detaching and removing the connecting means.

Claim 12 (New): A method for manufacturing a variable camshaft having an outside shaft and an inside shaft with first cams connected to the outside shaft and second cams connected to

the inside shaft,

wherein the following manufacturing steps are performed in chronological order:

- (1) connecting the cams by detachable connecting means to form a detachably assembled machining module wherein the cams are aligned in relation to one another in predetermined fixed angular positions,
- (2) completely machining all cam contours of the module,
- (3) mounting the machined module on the outside shaft,
- (4) individually connecting each of the cams of the module to its respective shaft,
- (5) detaching and removing the connecting means.

Claim 13 (New): The method for manufacturing a camshaft on which the cams (1, 2, 4) are equal distance apart in an axial direction, according to Claim 12,

wherein axial spacings in the machining module are set by spacers (3) used there.

Claim 14 (New): The method according to Claim 12,
wherein spacers (3) as components that are open at the circumference are provided with an opening with a diameter larger than the respective outside diameter of the shaft occupied by the cams, whereby this is true with regard to the outside diameter of

the outside shaft (12) in the case of a shaft composed of an inside shaft (11) and an outside shaft (12).

Claim 15 (New): The method according to claim 12, in which one of the cams (1, 2, 4), namely a second cam (4) has a radial fitting borehole (7) to receive a fastening element (13) which secures this second cam (4) on the inside shaft (11),

wherein the fitting borehole (7) is created while the respective second cam (4) is within the machining module.

Claim 16 (New): The method according to claim 12, wherein screws (5) which pass axially through the cams (1, 2, 4) serve as the means for producing a detachable joining.

Claim 17 (New): The method according to claim 12, wherein at least two screws (5) are distributed over the circumference of the cams (1, 2, 4).

Claim 18 (New): The method according to claim 12, comprising the features

- a thread (6) of a screw (5) engages in a mating thread which is provided in a spacer (3) situated at a distance from the screw head,
- at least two screws (5) are inserted in opposite

directions axially with regard to the position of their heads and threads.

Claim 19 (New): The method according to claim 12, wherein axial dowel pins are used as positioning means inside the machining module.

Claim 20 (New): The method according to claim 12, wherein screws (5) are designed as fitting screws.

Claim 21 (New): The method according to claim 12, for manufacturing a camshaft in which the shaft on which the cams (1, 2, 4) are mounted is made of two shafts that are adjustable in relation to one another and are situated concentrically one inside the other, namely an inside shaft (11) and an outside shaft (12) and first cams (1, 2) are fixedly connected to the outside shaft (12) and second cam (4) are fixedly connected to the inside shaft (11) via radial connecting elements (13) which pass through the outside shaft (12),

wherein

- the machining of the radial inside surfaces for all cams (1, 2, 4) is performed for all cams to the same diameter and
- a recess (9) having a reduced diameter is

provided on the outside shaft (12) for receiving the second cam (4), whereby the reduction is of such an extent that play-free rotation of the second cam (4) on the outside shaft (12) is ensured.